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ABSTRACT

Macro-indicators that can measure the resources available to the Ontario university system are described. Supporting data (1970-1982) are presented that might be used to generate the indicators are also presented, along with complementary analyses that may promote understanding of the indicators and data. Operating revenue in constant dollars per full-time equivalent student and per basic instructional unit is a significant macro-indicator, which over time measures the gains or losses in resources available to universities as a function of teaching activity. Additional macro-indicators include: ratios of research expenditures to full-time faculty, internal distribution of funds by the Ontario universities, and interprovincial comparisons of higher education expenditures. Specific indicators that can be used for interprovincial comparisons include: provincial operating grants per student and per capita, provincial operating grants plus student aid per capita, provincial operating grants plus fees per student, and total operating income per student, and provincial operating grants plus student aid as a percentage of provincial gross general expenditure. A glossary is appended. (SW)

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ONTARIO UNIVERSITIES STATISTICAL COMPENDIUM 1970-71 to 1981-82

PART A MACRO-INDICATORS

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Prepared by the
COU Special Committee on Macro-Indicators
Council of Ontario Universities
Conseil des Universités de l'Ontario

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June 1983

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GENERAL CAVEAT

THE READER OF THIS COMPENDIUM IS CAUTIONED THAT THE NUMBER OF INSTITUTIONS INCLUDED IN THE VARIOUS ANALYSES CONTAINED IN THIS REPORT MAY VARY FROM YEAR TO YEAR AND FROM TABLE TO TABLE. IF FIGURES FROM DIFFERENT TABLES ARE BEING USED, THE READER SHOULD REFER TO THE APPROPRIATE FOOTNOTES TO ENSURE THAT THE INSTITUTIONAL COVERAGE IS COMPARABLE. IT MAY BE NECESSARY TO REFER TO THE RAW DATA CONTANED IN PART B OF THIS COMPENDIUM TO DERIVE COMPARABLE FIGURES.

THE READER SHOULD ALSO BE AWARE THAT THE FINANCIAL, ENROLMENT AND FACULTY DATA PRESENTED IN THIS REPORT MAY NOT BE STRICTLY COMPARABLE OVER THE TIME PERIOD UNDER STUDY. OVER THE YEARS CHANGES HAVE BEEN EFFECTED IN THE DEFINITIONS AND RULES GOVERNING THE REPORTING OF THESE DATA. THESE CHANGES HAVE BEEN MOST ACUTE WITH RESPECT TO THE ENROLMENT DATA AND ARE DOCUMENTED IN THE APPROPRIATE FOOTNOTES.

A0.0 INTRODUCTION

With increasingly overwhelming amounts of detailed data on post-secondary education being turned out each year, decision makers in recent years have hoped for a concise series of macro-indicators which would unambiguously measure what was taking place and assist in focusing on what decisions had to be made. Within Ontario, this concept was initially raised when the Ministry of Colleges and Universities began considering the development of programme costs in 1973-74. The Council of Ontario Universities, in its June 1974 brief on operating grants A Statement of Principles..., proposed the development of essential macro-indicators. A year later the Operating Grants Committee in its 1975 brief recommended that COU join with MCU and the Ontario Council of University Affairs in a tripartite approach to the development of appropriate indicators. In June the Chairman of OCUA formally established the Tripartite Committee on Macro-Indicators which produced two reports, Trends in Student-Faculty Ratios in Ontario Universities, 1970-71 to 1975-76 published in March 1977 and Preliminary Discussion Paper on Macro-Indicators in December 1977. In November 1977 COU established an Ad Hoc Committee on Macro-Indicators which was to advise Council on the disposition of reports from the Tripartite Committee and on the matter of macro-indicators in general.

A principal concern of the COU Committee regarding the reports of the earlier Tripartite Committee arose from the multiplicity of

objectives to be served by the development of a set of macro-indicators. This multiplicity had given rise to classifying as macro-indicators four different elements; something which might truly be termed a macro-indicator, supporting data which might be used to generate such indicators, complementary analyses which might be used to enhance understanding of both indicators and data, and micro-indicators. Clearly, specific and limited objectives are desirable (in the first instance at least) and the COU Committee has identified the basic objectives, from COU's perspective, to be:

1) To measure the real resources available to the Ontario university system as a function of the volume of activity therein, over time;

2) To compare trends in the resources made available in other jurisdictions and to other provincially funded activities; and

3) Ultimately, to measure the changes in resource distribution within institutions, using data comparable between institutions.

The COU Committee notes that these objectives have been defined as COU objectives and, as such, they are a statement of COU priorities in the general area of macro-indicators. This is in no way intended to suggest that Council will not identify additional objectives in future.

The COU Committee initially devoted considerable time and effort examining the conceptual framework within which macro-indicators could be developed. In the end, the Committee concluded that it should not aim at development of a short series of "magic numbers",

but that Council's objectives would best be met by publication of an interpretative statistical compendium, containing macro-indicators, complementary analyses and supporting data. The Committee is convinced that meaningful indicators can only be properly understood in the context of supporting statistical data.

The first edition of the statistical compendium, covering the period 1970-71 to 1978-79, was released in October 1980. The present edition includes the original statistical material with the addition of figures up to and including 1981-82. (Data for 1981-82 have not been included in Section A1.4 which examines interprovincial comparisons. The material in this section is prepared by the Tripartite Committee on Interprovincial Comparisons).

A0.1 Organization of the compendium

The Committee believed that the statistical compendium should be designed to simplify its use by as wide and as varied a group of users as possible. It therefore seemed appropriate to present the compendium material in two parts. Part A is directed to the general user and contains the macro-indicators and complementary analyses, together with commentary on the material therein and a glossary of terms and definitions. In addition, derived system data which have been used in development of the indicators have been provided in an appendix to Part A. Part B is directed to the user who may wish to trace the development of the various indica-

tors and contains the supporting data. To facilitate usage of this compendium, the table of contents in Part A also lists the contents of Part B. (It should be noted that many of the footnotes to the tables in Part A refer the user to sections in Part B.)

Before examining the indicators a few general observations are in order. Historical time series are presented covering the years 1970-71 to 1981-82. The base year was selected to reflect the first year of publication of financial data by the Committee of Finance Officers - Universities of Ontario (COFO-UO). Many of the indicators in this compendium are based on data contained in the COFO-UO reports. (The user will note that data for 1971-72 have not been included. In 1971-72 the universities switched from a fiscal year running from July to June to the current university fiscal year which runs from 1 May to 30 April. As a result of this transition, data for 1971-72 cover only a 10 month period and have been excluded from the analyses contained in this compendium.)

Many of the financially related indicators appearing in this compendium have been expressed in terms of "constant dollars", i.e. actual revenue or expenditures in a given year have been deflated to account for the decreased value of the dollar in terms of purchasing power over the years. The principal difficulty encountered in formulating these indicators related to the choice of deflation indices. The most commonly used deflation index is the Consumer Price Index (CPI) computed monthly by Statistics

Canada; as a result a number of the indicators employ the CPI as a deflator. However, the Committee does not feel that the CPI is particularly representative of the inflationary pressures which have had an impact on the university sector in recent years. Accordingly, a number of deflation indices have been used in this compendium.

During the seventies expenditures on salaries and benefits represented about 80% of university operating expenditures and non-salary expenditures accounted for the remaining 20%. To deflate non-salary expenditures the Committee employed the Ontario University Non-Salary Price Index (OUNSPI). Greater difficulty was encountered in selecting an appropriate salary deflator. In theory the dollar deflator used should be as broadly based as possible. In the area of salaries and wages, the most broadly based index of earnings is the Statistics Canada industrial composite, comprising about 55% of the active labour force in Ontario. During the seventies, however, the rate of increase in average earnings in the industrial composite has been steeper than the rate of increase experienced in the university sector. The Committee has, therefore, chosen to compute constant dollar revenue and expenditures using two deflation indices which are a combination of 0.8 of a salary index and 0.2 of a non-salary index. In both cases OUNSPI is used as the non-salary component.

The first index, the "COU Combined Index", uses the industrial

composite index as the salary component. This index might be said to measure the extent of inflationary pressure on the university sector.

The second index, the "Combined Index Based on Actual Academic Salary Increases", uses actual average salary data for professorial ranks in Ontario universities as the salary component. As increases in academic salaries have generally been less than salary increases awarded in the private sector, this index might be said to measure the volume of goods and services universities have been able to purchase, notwithstanding inflationary pressures.

In addition, two similar deflation indices have been developed to deflate research expenditures which are a combination of 0.6 of the salary component and 0.4 of the non-salary component. (This 60/40 split is more representative of the pattern of salary and non-salary expenditures in the research area.)

Users will note that many of the tables in Part B of the compendium present data at the institutional level and yet institutional break-downs are not carried forward into Part A. This restriction in the present report to development of indicators at the system level represents a practical, rather than a policy, limitation. Any attempt to develop indicators that would permit valid interinstitutional comparisons will lead to the inevitable compounding of technical problems. The Committee believes that such indicators

would have to be generated at a programme level or at least be designed to take account of the varying mix of programmes extant at each institution.

A1.0 MACRO-INDICATORS

This section of the statistical compendium presents an initial series of macro-indicators. Included with each indicator is a brief description of what, in the Committee's view, the indicator is intended to measure, together with an examination of the trend data.

A1.1 Ratios of operating revenue to eligible FTE enrolment and BIU's

The Committee has identified operating revenue in constant dollars per FTE student and per BIU as perhaps the most significant gross indicator of the financial health of the Ontario university system. Viewed over time, and at the system level, this indicator measures the gains or losses in resources available to universities as a function of teaching activity. Three series of values for this indicator (based on three different deflation indices) are presented in Table A1-1.

Examination of Table A1-1 shows that the rate of change in the value of revenue per FTE student or per BIU is dependent on the deflation index used. For example, revenue per FTE student in 1981-82 varied from 69% of the 1970-71 level when the COU Combined Index was used as the deflator, to 75% when the other deflators where employed. While the absolute values may vary, the trends in all three series are quite similar - steady declines from 1970-71

Table A1-1

Ratios of Operating Revenue (in Constant Dollars) to Eligible FTE Enrolment and BIU's in Ontario Universities

	COU Combined Index				Combined Index Based on Actual Academic Salary Increases				CPI			
	Revenue /FTE $	Index	Revenue /BIU $	Index	Revenue /FTE $	Index	Revenue /BIU $	Index	Revenue /FTE $	Index	Revenue /BIU $	Index
1970-71	3117	100.0	1815	100.0	3117	100.0	1815	100.0	3117	100.0	1815	100.0
1972-73	2823	90.6	1626	89.6	2938	94.3	1692	93.2	2991	96.0	1723	94.9
1973-74	2627	84.3	1529	84.2	2760	88.5	1606	88.5	2750	88.2	1601	88.2
1974-75	2473	79.3	1446	79.7	2632	84.4	1540	84.8	2617	84.0	1530	84.3
1975-76	2374	76.2	1397	77.0	2556	82.0	1504	82.9	2566	82.3	1510	83.2
1976-77	2397	76.9	1413	77.9	2589	83.1	1527	84.1	2677	85.9	1579	87.0
1977-78	2468	79.2	1442	79.4	2655	85.2	1551	85.5	2763	88.6	1615	89.0
1978-79	2485	79.7	1454	80.1	2686	86.2	1572	86.6	2732	87.6	1599	88.1
1979-80	2374	76.2	1381	76.1	2581	82.8	1502	82.8	2621	84.1	1525	84.0
1980-81	2236	71.7	1302	71.7	2439	78.2	1420	78.2	2451	78.6	1427	78.6
1981-82	2142	68.7	1247	68.7	2347	75.3	1366	75.3	2351	75.4	1369	75.4

Notes: The number of institutions included in the figures varies from year to year. (Refer to Footnote 1 on Table I-2 in Appendix I for details on the institutions included in each year's figures).

Sources: Revenue data were obtained from Table I-2, enrolment and BIU's from Table I-3 in Appendix I. Please refer to the footnotes for these tables.

to 1975-76, some improvement in the next three years and downturns again in each of the remaining years. An interesting observation that may be made from this table is that the rates of change (as measured by the index for each indicator) for revenue per FTE student and revenue per BIU are remarkably similar in all three series of values.

A1.2 Ratios of research expenditures to full-time faculty

This indicator measures the gains or losses in resources available to universities for research (as reported under "Sponsored Research" in the COFO-UO reports) as a function of full-time faculty holding professorial rank (full, associate or assistant professor). Table A1-2 presents three series of values for this indicator based on three different deflation indices.

As was the case in the previous indicator, the rate of change in the value of research expenditures per full-time faculty member from year to year is dependent on the deflation index used. In 1981-82 the value ranged from 85% of the 1970-71 value when the COU Combined Research Index was used, to 96% when the CPI was used as the deflator. The 1981-82 value using the Combined Research Index Based on Actual Academic Salary Increases was roughly midway between these two series. All three series showed a steady decline in value from 1970-71, reaching a low in 1976-77. The ratios of research expenditures to full-time faculty showed significant

Table A1-2

Ratios of Research Expenditures (in Constant Dollars, Deflated) to Full-Time Faculty (Professorial Ranks) in Ontario Universities

	COU Combined Research Index		Combined Research Index Based on Actual Academic Salary Increases		CPI	
	Research Expenditures/ FT Faculty $	Index	Research Expenditures/ FT Faculty $	Index	Research Expenditures/ FT Faculty $	Index
1970-71	9,403	100.0	9,403	100.0	9,403	100.0
1972-73	7,235	76.9	7,458	79.3	7,540	80.2
1973-74	6,900	73.4	7,161	76.2	7,167	76.2
1974-75	6,652	70.7	6,970	74.1	7,049	75.0
1975-76	6,631	70.5	7,010	74.6	7,154	76.1
1976-77	6,230	66.3	6,600	70.2	6,927	73.7
1977-78	6,761	71.9	7,135	75.9	7,600	80.8
1978-79	7,228	76.9	7,657	81.4	8,039	85.5
1979-80	7,099	75.5	7,548	80.3	8,002	85.1
1980-81	7,353	78.2	7,829	83.3	8,269	87.9
1981-82	8,024	85.3	8,570	91.1	9,068	96.4

Notes: The number of institutions included in the figures varies from year to year. (Refer to Footnote 1 on Table I-4 in Appendix I for details on the institutions included in each year's figures).

Sources: Data on research expenditures were obtained from Table I-4. (Please refer to the footnotes for this table.) Data on full-time faculty in the professorial ranks (full, associate and assistant professors) were obtained from Statistics Canada's Salaries for Full Time Teaching Staff at Canadian Universities.

improvements in both 1977-78 and 1978-79, remained at about the same level in 1979-80 and increased again in 1980-81 and in 1981-82.

A1.3 Percentage distribution of operating expenditures

One potential avenue of expression for changes in levels of global funding is the internal distribution of funds by the Ontario universities. Table A1-3 presents an analysis of the percentage distribution of operating expenditures among broad categories.

Examination of this table shows that academic salaries have increased marginally from 42% of total expenditures in 1970-71 to 44% in 1981-82. The percentage has remained relatively constant since 1972-73. Non-academic salaries have remained quite stable over the period, representing about 30% of total operating expenditures. In the area of employee benefits there has been a steady increase from just under 6% of total expenditures in 1970-71 to slighty over 8% in 1981-82. These three expenditure categories when combined have shown an increase from 77% in 1970-71 to 81% in 1981-82. This increase has been at the expense of non-salary expenditures. Non-salary expenditures represented 23% of total operating expenditures in 1970-71 but only 19% in 1981-82.

Table A1-3

Percentage Distribution of Operating Expenditures in Ontario Universities

	Academic Salaries	Non-Academic Salaries	Employee Benefits	Total Salaries & Benefits	Non Salary Items
1970-71	41.8	29.3	5.8	76.9	23.1
1972-73	43.4	30.2	6.8	80.4	19.6
1973-74	43.3	30.0	6.9	80.2	19.8
1974-75	43.2	29.7	7.1	80.0	20.1
1975-76	43.5	29.9	7.7	81.1	18.9
1976-77	44.0	29.7	8.2	81.8	18.2
1977-78	44.0	29.7	8.2	81.9	18.1
1978-79	43.9	29.6	8.4	82.0	18.0
1979-80	43.9	29.7	8.1	81.7	18.3
1980-81	43.9	29.4	8.0	81.3	18.7
1981-82	43.7	29.2	8.3	81.3	18.7

Note: The number of institutions included in the figures varies from year to year. (Refer to Footnote 1 on Table I-2 in Appendix I for details on the institutions included in each year's figures.)

Sources: Data were obtained from Table B2-2 in Part B of this compendium.

A1.4 Interprovincial comparisons

The Committee regards comparative analyses of provincial expenditure on higher education as a major area of macro-indicators development. The Committee is indebted to the Tripartite Committee on Interprovincial Comparisons, comprised of representatives of COU, MCU and OCUA, for the development of indicators in this area. The Tripartite Committee has published a series of eight indicators covering the period 1974-75 to 1980-81. The following description of these indicators has been extracted from the report of the Tripartite Committee.

"...the (Tripartite) Committee decided that interest centred on three major questions: how much financial support is provided to universities, how does university financing fit into the government's priorities, and what proportion of provincial resources is directed towards university financing? Eight specific indicators were selected as being most useful in answering these questions:

1) Provincial operating grants per student,
2) Provincial operating grants per capita,
3) Provincial operating grants plus student aid per capita,
4) Provincial operating grants plus fees per student,
5) Total operating income per student,
6) Provincial operating grants plus student aid as a percentage of provincial gross general expenditure,

7) Provincial operating grants per $1,000 of provincial personal income, and

8) Total university operating expenditure as a percentage of provincial gross domestic product.

"The first indicator [Provincial operating grants per student] is one of two measures of government operating grants to universities. This indicator represents the level of funding by provincial governments on a per student basis. It indicates funds are provided both to institutions within the province and to institutions outside the province. In the latter case, funds are provided by the government of one province to an institution located in another province. These funds support the training of students originating in the province but enrolled in special programs in institutions which are located outside the province's boundaries. Indicator Two [Provincial operating grants per capita] is the other measure of direct operating grants to universities. This indicator measures the various provincial governments' support for universities within or outside the province in terms of dollars provided per head of provincial population.

"Indicator Three [Provincial operating grants plus student aid per capita] compares, on a per capita basis, total provincial government payments in support of university education, regardless of whether the funds go to the universities in the form of operating grants or to students in the form of student aid.

"Unlike the first three indicators, the fourth and fifth indicators are based on the revenues of the institutions within the province only. The fourth indicator [Provincial operating grants plus fees per student] allows for comparisons among provinces, on a per student basis, of the two major sources of university income - provincial operating grants and student fees. In many provinces the provincial government not only exercises control over the level of operating grants but also over student fee rates.

"The fifth indicator [Total operating income per student] adds in all other university operating income and thus shows, per student, the relative operating support from all sources received by the institutions within each jurisdiction.

"Indicator Six [Provincial operating grants plus student aid as a percentage of provincial gross general expenditure] shows the different percentages of provincial government expenditures directed towards university education in the form of provincial operating grants and student aid. In this calculation, provincial government expenditures are represented by the measure of Gross General Expenditure, developed by Statistics Canada, in order to make provincial government expenditure data comparable among provinces. The provincial budgetary expenditure data, as shown in the various provincial public accounts, are not consistent from province to province. Certain items, such as expenditures of special funds, are often treated differently. Gross General

Expenditure attempts to correct this by including with budgetary expenditure, as reported in the public accounts, the expenditure of a number of government agencies.

"The seventh and eighth indicators recognize that all provinces do not have an equal ability to pay for university education. The seventh indicator [Provincial operating grants per $1,000 of provincial personal income] is one used by the Chronicle of Higher Education to measure the ability of various American states to afford university education and the Committee believes it is well suited to the Canadian situation. With this indicator, ability to pay is based on the level of personal income in the province. The eighth indicator [Total university operating expenditure as a percentage of provincial gross domestic product] measures the share of provincial economic activity attributable to university expenditures. Provincial Gross Domestic Product (GDP) is used to measure the size of the various provincial economies."

The eight indicators from the report of the Tripartite Committee are reproduced in Table A1-4, with the addition of rankings by province in the first and final years.

The first series of five indicators shows that the financial support provided to the Ontario universities has deteriorated over the seven-year period with respect to other provinces. Indicator 1 shows Ontario's position slipping from 7th to 10th. Indicator 2

Table A1-4

Indicator 1 - Provincial Operating Grant Per Student**

	1974-75 $		1975-76 $	1976-77 $	1977-78 $	1978-79 $	1979-80 $	1980-81 $	
British Columbia	3028.54	(4)	3576.86	4049.04	4521.24	5024.59	5336.67	5664.13	(4)
Alberta	3344.80	(1)	4032.91	4358.39	4796.69	5339.17	5812.80	6758.10	(1)
Saskatchewan	2976.68	(5)	3410.23	3767.36	4107.03	4615.35	5096.16	5302.09	(5)
Manitoba	2594.60	(8)	3015.67	3452.50	3873.55	4123.29	4770.16	4498.71	(7)
Ontario*	2689.91	(7)	2913.06	3264.84	3669.38	4002.30	4140.17	4273.48	(10)
Quebec	3057.29	(3)	3751.68	4078.58	4449.41	4657.05	5299.45	5934.99	(2)
New Brunswick	2703.68	(6)	3002.90	3444.99	3904.80	4363.64	4762.27	4929.36	(6)
Nova Scotia	2430.59	(9)	2835.72	3232.94	3497.05	3818.76	4074.20	4378.63	(9)
P.E.I.	2413.72	(10)	2589.42	2973.75	3030.10	3544.23	4246.25	4440.86	(8)
Newfoundland	3078.96	(2)	3809.35	4157.44	4624.91	5485.42	5993.67	5683.74	(3)
Canada	2870.99		3321.93	3686.69	4097.34	4455.07	4840.27	5190.79	
Canada (Excl. Ontario)	2982.82		3576.88	3949.77	4347.27	4704.66	5231.21	5699.89	

Notes:

1. The figures for British Columbia, Alberta, and Manitoba do not reflect payments made to Saskatchewan for Veterinary Medicine Students. These students are included in the Saskatchewan data. These payments are not included in Saskatchewan's operating grants.

2. Rank is indicated in parentheses.

Source: Interprovincial Comparisons of University Financing, Fourth Report of the Tripartite Committee on Interprovincial Comparisons, September 1982.

*Ontario figures were not derived from data found elsewhere in this compendium.

**May represent later calculations than appeared in "Interprovincial Comparisons..." report.

Table A1-4

Indicator 2 - Provincial Operating Grants Per Capita**

	1974-75 $		1975-76 $	1976-77 $	1977-78 $	1978-79 $	1979-80 $	1980-81 $	
British Columbia	54.86	(7)	68.60	78.17	86.17	94.26	98.42	105.59	(4)
Alberta	71.65	(1)	90.52	96.79	104.30	110.04	115.60	130.53	(2)
Saskatchewan	55.99	(6)	67.47	75.39	80.76	87.50	92.76	98.34	(6)
Manitoba	58.05	(3)	68.81	79.17	88.23	88.64	99.67	100.32	(5)
Ontario*	57.33	(5)	65.89	74.72	80.19	83.60	86.61	92.11	(9)
Quebec	57.60	(4)	73.88	82.28	96.05	108.45	123.20	143.90	(1)
New Brunswick	54.84	(8)	64.51	70.98	76.91	83.53	89.67	96.69	(7)
Nova Scotia	60.28	(2)	75.04	84.74	91.80	98.37	102.63	114.08	(3)
P.E.I.	40.54	(10)	46.87	53.04	62.10	66.66	75.43	81.09	(10)
Newfoundland	48.06	(9)	59.30	66.83	76.29	81.46	90.26	95.63	(8)
Canada	57.94		70.55	79.11	87.60	94.39	101.62	112.22	
Canada (Excl. Ontario)	58.29		73.17	81.58	91.78	100.47	110.05	123.43	

Notes:

1. The figures for British Columbia, Alberta, and Manitoba do not reflect payments made to Saskatchewan for Veterinary Medicine students.

2. Rank is indicated in parentheses.

Source: Interprovincial Comparisons of University Financing, Fourth Report of the Tripartite Committee on Interprovincial Comparisons. September 1982.

*Ontario figures were not derived from data found elsewhere in this compendium.

**May represent later calculations than appeared in "Interprovincial Comparisons..." report.

Table A1-4

Indicator 3 - Provincial Operating Grants Plus Student Aid Per Capita**

	1974-75 $		1975-76 $	1976-77 $	1977-78 $	1978-79 $	1979-80 $	1980-81 $	
British Columbia	58.12	(8)	71.45	80.55	88.79	97.26	101.56	109.07	(4)
Alberta	73.29	(1)	93.10	99.41	106.81	112.56	118.36	133.76	(2)
Saskatchewan	58.73	(6)	70.84	79.04	84.75	92.56	97.25	103.34	(7)
Manitoba	64.43	(3)	75.61	85.44	92.91	93.12	104.50	105.44	(5)
Ontario*	61.16	(4)	70.81	80.17	86.65	89.03	92.10	97.83	(9)
Quebec	60.98	(5)	77.96	87.02	102.40	114.63	131.06	153.26	(1)
New Brunswick	58.34	(7)	67.78	74.37	80.59	87.26	94.04	102.76	(8)
Nova Scotia	64.79	(2)	79.67	88.57	95.22	102.60	107.48	120.93	(3)
P.E.I.	45.42	(10)	52.27	56.82	65.76	70.45	79.71	86.00	(10)
Newfoundland	52.05	(9)	67.02	75.66	85.10	87.80	97.80	104.52	(6)
Canada	61.51		74.86	83.72	92.96	99.37	107.16	118.49	
Canada (Excl. Ontario)	61.71		77.14	85.72	96.52	105.20	115.62	130.02	

Notes:

1. The figures for British Columbia, Alberta, and Manitoba do not reflect payments made to Saskatchewan for Veterinary Medicine students.

2. Rank is indicated in parentheses.

Source: Interprovincial Comparisons of University Financing, Fourth Report of the Tripartite Committee on Interprovincial Comparisons, September 1982.

*Ontario figures were not derived from data found elsewhere in this compendium.

**May represent later calculations than appeared in "Interprovincial Comparisons..." report.

Table A1-4

Indicator 4 - Provincial Operating Grants Plus Fees Per Student**

	1974-75 $		1975-76 $	1976-77 $	1977-78 $	1978-79 $	1979-80 $	1980-81 $	
British Columbia	3429.41	(5)	3987.47	4452.21	4994.85	5515.62	5834.10	6203.51	(4)
Alberta	3757.93	(1)	4462.95	4850.36	5294.21	5888.16	6448.62	7375.74	(1)
Saskatchewan	3430.26	(4)	3865.98	4349.37	4720.16	5288.08	5769.05	6033.75	(5)
Manitoba	3003.00	(9)	3423.43	3887.91	4318.80	4660.71	5350.19	5093.52	(10)
Ontario*	3320.12	(6)	3564.01	3909.33	4430.28	4771.43	4957.01	5199.20	(8)
Quebec	3455.39	(3)	4139.55	4496.14	4871.31	5071.82	5745.88	6389.06	(2)
New Brunswick	3256.02	(7)	3595.95	4028.59	4542.10	4999.77	5454.91	5615.82	(6)
Nova Scotia	3108.01	(8)	3500.86	3892.33	4215.77	4580.05	4906.88	5284.55	(7)
P.E.I.	2863.42	(10)	2976.77	3389.83	3543.28	4176.81	4745.73	5096.24	(9)
Newfoundland	3554.29	(2)	4337.94	4639.55	5250.11	6132.43	6660.13	6368.52	(3)
Canada	3380.47		3844.68	4219.94	4687.51	5055.13	5480.69	5881.20	
Canada (Excl. Ontario)	3417.73		4019.70	4413.64	4837.76	5211.56	5773.23	6259.86	

Notes:

1. New Brunswick - Mount Allison University fiscal period was for ten months in 1976-77. Université de Moncton and St. Thomas University fiscal period was for ten months in 1977-78. University of New Brunswick fiscal period was for ten months in 1978-79.

2. Nova Scotia - St. Francis Xavier University fiscal period was for ten months in 1974-75. Dalhousie University fiscal period was for nine months in 1976-77. The fiscal period for six institutions was ten months in 1977-78.

3. P.E.I. - Ten month fiscal period in 1977-78.

4. Saskatchewan figures include the grants for Veterinary Medicine training received from British Columbia, Alberta and Manitoba.

5. Rank is indicated in parentheses.

Source: Interprovincial Comparisons of University Financing, Fourth Report of the Tripartite Committee on Interprovincial Comparisons, September 1982.

*Ontario figures were not derived from data found elsewhere in this compendium.

**May represent later calculations than appeared in "Interprovincial Comparisons..." report.

Table A1-4

Indicator 5 - Total Operating Income Per Student**

	1974-75 $		1975-76 $	1976-77 $	1977-78 $	1978-79 $	1979-80 $	1980-81 $	
British Columbia	3681.65	(4)	4312.30	4871.11	5344.48	5886.43	6057.77	6412.20	(4)
Alberta	3838.53	(2)	4525.15	4838.60	5371.44	6023.98	6613.04	7593.89	(1)
Saskatchewan	3692.21	(3)	4237.64	4608.87	5048.64	5662.23	6231.91	6378.39	(5)
Manitoba	3030.44	(10)	3579.42	3995.83	4440.91	4779.61	5422.73	5482.78	(8)
Ontario*	3502.43	(6)	3714.20	4094.05	4594.19	5037.51	5239.25	5420.97	(9)
Quebec	3642.53	(5)	4372.94	4743.11	5164.80	5347.21	5883.84	6682.59	(3)
New Brunswick	3321.57	(7)	3663.65	4085.48	4581.81	4829.71	5689.55	5890.08	(6)
Nova Scotia	3303.35	(8)	3849.66	3933.81	4293.91	4929.64	5257.37	5823.18	(7)
P.E.I.	3218.73	(9)	3360.12	3394.19	3255.86	4417.63	4972.97	5073.01	(10)
Newfoundland	3844.32	(1)	4929.76	5437.84	6343.80	6821.16	7222.26	7052.23	(2)
Canada	3557.69		4044.65	4426.33	4909.74	5320.21	5710.91	6157.60	
Canada (Excl. Ontario)	3591.81		4250.70	4633.56	5094.05	5476.10	5974.38	6566.59	

Notes:

1. New Brunswick - Mount Allison University fiscal period was for ten months in 1976-77. Universite de Moncton and St. Thomas University fiscal period was for ten months in 1977-78. University of New Brunswick fiscal period was for ten months in 1978-79.

2. Nova Scotia - St. Francis Xavier Universty fiscal period was for ten months in 1974-75. Dalhousie University fiscal period was for nine months in 1976-77. The fiscal period for six institutions was ten months in 1977-78.

3. P.E.I. - Ten month fiscal period in 1977-78.

4. Saskatchewan figures include the grants for Veterinary Medicine training received from British Columbia, Alberta and Manitoba.

5. Rank is indicated in parentheses.

Source: Interprovincial Comparisons of University Financing, Fourth Report of the Tripartite Committee on Interprovincial Comparisons, September 1982.

*Ontario figures were not derived from data found elsewhere in this compendium.

**May represent later caclulations than appeared in "Interprovincial Comparisons..." report.

Table A1-4

Indicator 6 - Provincial Operating Grants Plus Student Aid as a % of Provincial Gross General Expenditure**

	1974-75 %		1975-76 %	1976-77 %	1977-78 %	1978-79 %	1979-80 %	1980-81 %	
British Columbia	4.87	(6)	4.64	5.08	5.01	5.01	4.71	4.59	(4)
Alberta	5.42	(3)	5.62	5.03	4.97	4.66	3.58	4.36	(6)
Saskatchewan	4.97	(5)	4.91	4.67	4.40	4.32	4.12	4.14	(8)
Manitoba	5.66	(2)	5.45	5.42	5.01	5.20	5.10	4.48	(5)
Ontario*	5.18	(4)	5.08	5.23	5.21	4.96	4.74	4.73	(3)
Quebec	4.72	(7)	4.95	4.75	4.98	4.91	5.04	5.09	(2)
New Brunswick	4.63	(8)	4.47	4.56	4.56	4.51	4.50	4.31	(7)
Nova Scotia	5.81	(1)	5.89	5.97	5.50	5.24	5.22	5.11	(1)
P.E.I.	3.23	(10)	3.01	3.21	3.06	3.15	3.28	3.17	(10)
Newfoundland	3.59	(9)	3.77	3.96	4.37	4.05	3.76	3.96	(9)
Canada	4.99		5.01	5.00	5.01	4.87	4.64	4.73	
Canada (Excl. Ontario)	4.90		4.97	4.88	4.92	4.83	4.60	4.73	

Notes:

1. The figures for British Columbia, Alberta and Manitoba do not reflect payments made to Saskatchewan for Veterinary Medicine students.

2. Rank is indicated in parentheses.

Source: Interprovincial Comparisons of University Financing, Fourth Report of the Tripartite Committee on Interprovincial Comparisons, September 1982.

*Ontario figures were not derived from data found elsewhere in this compendium.

**May represent later calculations than appeared in "Interprovincial Comparisons..." report.

Table A1-4

Indicator 7 - Provincial Operating Grants Per $1,000 of Provincial Personal Income**

	1974-75 $	1975-76 $	1976-77 $	1977-78 $	1978-79 $	1979-80 $	1980-81 $
British Columbia	9.78 (10)	10.68	10.67	10.66	10.57	9.97	9.56 (9)
Alberta	13.88 (3)	14.94	14.22	13.83	13.01	11.85	11.84 (5)
Saskatchewan	11.30 (8)	10.93	11.33	11.98	11.75	11.36	10.95 (8)
Manitoba	11.81 (7)	11.95	12.54	12.89	11.75	12.17	11.20 (7)
Ontario*	9.95 (9)	10.06	10.20	10.04	9.54	8.99	8.61 (10)
Quebec	12.25 (5)	13.58	13.14	13.98	14.34	14.73	15.32 (1)
New Brunswick	14.47 (2)	14.11	14.04	14.08	13.87	13.44	13.45 (4)
Nova Scotia	14.61 (1)	15.93	16.00	15.68	15.12	14.29	14.52 (3)
P.E.I.	11.96 (6)	11.22	11.60	12.63	11.61	12.15	11.44 (6)
Newfoundland	13.79 (4)	14.61	14.54	15.20	15.21	15.25	15.01 (2)
Canada	11.24	11.86	11.80	11.97	11.70	11.38	11.28
Canada (Excl. Ontario)	12.12	13.05	12.85	13.22	13.10	12.90	12.95

Notes:

1. The figures for British Columbia, Alberta, and Manitoba do not reflect payments made to Saskatchewan for Veterinary Medicine students.

2. Rank is indicated in parentheses.

Source: Interprovincial Comparisons of University Financing, Fourth Report of the Tripartite Committee on Interprovincial Comparisons, September 1982.

*Ontario figures were not derived from data found elsewhere in this compendium.

**May represent later calculations than appeared in "Interprovincial Comparisons..." report.

Table A1-4

Indicator 8 - Total University Operating Expenditures as a % of Provincial Gross Domestic Product**

	1974-75 %	1975-76 %	1976-77 %	1977-78 %	1978-79 %	1979-80 %	1980-81 %
British Columbia	0.96 (9)	1.06	1.00	1.00	0.98	0.88	0.89 (9)
Alberta	0.92 (10)	0.95	0.95	1.00	0.86	0.78	0.78 (10)
Saskatchewan	1.04 (7)	1.08	1.08	1.14	1.10	1.00	0.90 (7)
Manitoba	1.16 (6)	1.19	1.18	1.23	1.14	1.10	1.13 (6)
Ontario*	1.02 (8)	1.05	1.02	1.01	0.97	0.91	0.90 (8)
Quebec	1.18 (5)	1.28	1.25	1.38	1.42	1.33	1.53 (4)
New Brunswick	1.56 (3)	1.65	1.53	1.51	1.34	1.35	1.60 (3)
Nova Scotia	1.90 (1)	2.12	1.79	1.88	1.90	1.84	2.12 (1)
P.E.I.	1.55 (4)	1.50	1.32	1.08	1.19	1.14	1.15 (5)
Newfoundland	1.66 (2)	1.95	1.86	2.02	1.89	1.70	1.83 (2)
Canada	1.09	1.15	1.11	1.15	1.12	1.04	1.09
Canada (Excl. Ontario)	1.13	1.22	1.18	1.24	1.21	1.12	1.20

Notes:

1. New Brunswick - Mount Allison University fiscal period was for ten months in 1976-77. Université de Moncton and St. Thomas University fiscal period was for ten months in 1977-78. University of New Brunswick fiscal period was for ten months in 1978-79.

2. Nova Scotia - St. Francis Xavier University fiscal period was for ten months in 1974-75. Dalhousie University fiscal period was for nine months in 1976-77. The fiscal period for six institutions was ten months in 1977-78.

3. P.E.I. - Ten month fiscal period in 1977-78.

4. Saskatchewan figures include the grants for Veterinary Medicine training received from British Columbia, Alberta and Manitoba.

5. Rank is indicated in parentheses.

Source: Interprovincial Comparisons of University Financing, Fourth Report of the Tripartite Committee on Interprovincial Comparisons, September 1982.

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shows Ontario slipping from 5th to 9th and Indicator 3 from 4th to 9th. The next two indicators show that Ontario was 6th in 1974-75 but slipped to 8th under Indicator 4 and 9th under Indicator 5.

Indicator 6 shows that, while provincial operating grants (plus student aid) to Ontario universities as a percentage of gross general expenditure deteriorated slightly, the ranking improved marginally. Ontario was the 4th ranked province in 1974-75 but was ranked 3rd in 1980-81.

The final two indicators show that in 1980-81 the proportion of provincial resources going to university financing in Ontario was lower than was the case in 1974-75. Ontario's ranking remained 8th under Indicator 8 and slipped from 9th to 10th under Indicator 7.

A2.0 COMPLEMENTARY ANALYSES

In this section of the statistical compendium a series of analyses is presented which, in the Committee's view, provide additional insights or supplementary information to the macro-indicators presented in Section A1.0.

A2.1 Percentage analysis of operating revenues by source of revenue

Table A2-1 presents a percentage analysis of operating revenues by major sources of revenue. Formula grants, as a percentage of total operating revenue, have increased from 75.5% in 1970-71 to slightly over 76% in 1981-82. However, total provincial government grants declined from 80% to 78% in these years. The share of total revenue contributed by tuition fees showed considerable variation during the ten-year period. In 1970-71 tuition fees accounted for nearly 16% of total operating revenue, rising to a high of 18% in 1973-74, and then declined in each of the next three years. Since 1978-79 fees have risen steadily and accounted for 17% of total operating revenue in 1981-82. (The high point for fees in 1973-74 corresponded to the lowest point for total provincial government grants of 77%.) The declines in tuition fees during this period were offset to some extent by the increase in revenue from other sources.

Table A2-1

Percentage Analysis of Operating Revenues by Source of Revenue in Ontario Universities

	Provincial Government Grants			Fees			Other Sources
	Formula	Other	Subtotal	Tuition	Misc.	Subtotal	
1970-71	75.5	4.1	79.6	15.8	0.9	16.7	3.7
1972-73	75.7	2.5	78.2	17.7	0.7	18.4	3.4
1973-74	74.1	3.2	77.3	18.0	0.7	18.7	3.9
1974-75	75.1	2.7	77.8	16.8	0.7	17.5	4.6
1975-76	75.7	3.4	79.0	15.9	0.9	16.8	4.2
1976-77	78.0	2.8	80.7	14.2	0.9	15.1	4.2
1977-78	77.7	2.6	80.3	15.0	0.9	15.9	3.8
1978-79	78.1	1.7	79.8	14.3	0.9	15.2	5.0
1979-80	77.7	1.8	79.5	14.4	0.9	15.4	5.1
1980-81	77.6	1.7	79.3	15.8	1.0	16.8	3.9
1981-82	76.3	1.6	77.9	16.9	1.0	17.9	4.2

Note: The number of institutions included in the figures varies from year to year. (Refer to Footnote 1 on Table I-2 in Appendix I for details on the institutions included in each year's figures.)

Source: Total Revenue and Expenses for Provincially Assisted Universities of Ontario, COFO-UO. Data exclude OMAF grants and MCU payments in lieu of municipal taxes.

A2.2 Ratios of non-salary operating expenditures to eligible FTE enrolment

Table A2-2 presents two series (employing OUNSPI and the CPI as deflators respectively) of ratios of non-salary operating expenditures in constant dollars to FTE enrolment. The ratios show a significant decline over the twelve-year period for both series. Non-salary operating expenditures per FTE student in 1981-82 were at 50% of the 1970-71 level when OUNSPI was used as the deflator and at 61% when the CPI was used. However, the trends for the two series differ somewhat. Using OUNSPI as the deflator, there was a decline throughout the period, substantial in the first four years and then tapering off, with smaller declines in each of the later six years. With the CPI used as the deflator, non-salary operating expenditures per FTE student showed substantial declines for the first four years but then remained relatively constant until 1980-81.

A2.3 Ratios of research expenditures to operating expenditures

Recent years have been characterized by reduced rates of increase in operating expenditures. There is some interest in whether levels of expenditure on research (as reported under "Sponsored Research" in the COFO-UO reports) have suffered a similar fate. Table A2-3 presents data on actual research expenditures and operating expenditures and the ratio of research to operating

Table A2-2

Ratios of Non-Salary Operating Expenditures (in Constant Dollars, Deflated) to Eligible FTE Enrolment in Ontario Universities

	Ontario University Non-Salary Price Index		CPI	
	Non-Salary Expenditures /FTE $	Index	Non-Salary Expenditures /FTE $	Index
1970-71	721	100.0	721	100.0
1972-73	592	82.1	585	81.1
1973-74	540	74.9	547	75.9
1974-75	494	68.5	526	73.0
1975-76	453	62.8	486	67.4
1976-77	442	61.3	484	67.1
1977-78	438	60.7	498	69.1
1978-79	424	58.8	487	67.5
1979-80	399	55.3	476	66.0
1980-81	379	52.6	459	63.7
1981-82	358	49.7	440	61.0

Note: The number of institutions included in the figures varies from year to year. (Refer to Footnote 1 on Table I-5 in Appendix I for details on the institutions included in each year's figures.)

Source: Non-salary operating expenditures were obtained from Table I-5, enrolment from Table I-3 in Appendix I. Please refer to the footnotes for these tables.

Table A2-3

Ratio of Research Expenditures to Operating Expenditures in Ontario Universities

	Research Expenditures ($000's)	Operating Expenditures ($000's)	Research Expenditures/ Operating Expenditures
1970-71	62,471	391,663	0.160
1972-73	69,538	465,135	0.150
1973-74	75,322	512,630	0.147
1974-75	85,905	581,252	0.148
1975-76	98,323	705,758	0.139
1976-77	103,813	784,165	0.132
1977-78	125,579	860,358	0.146
1978-79	144,507	924,777	0.156
1979-80	161,768	977,856	0.165
1980-81	186,631	1,061,502	0.176
1981-82	229,486	1,193,698	0.192

Note: The number of institutions included in the figures varies from year to year. (Refer to Footnote 1 on Table I-4 in Appendix I for details on the institutions included in each year's figures.)

Source: Research expenditure data were obtained from Table I-4, operating expenditure data from Table I-6 in Appendix I. Please refer to the footnotes for these tables.

expenditures. Research expenditures in 1970-71 represented 16% of the level of operating expenditures. In succeeding years the ratio of research expenditures to operating expenditures declined steadily, reaching a low of 0.13 in 1976-77. This trend was reversed over the next five years, and in 1981-82 the level of research expenditures in relation to operating expenditures was 19%, considerably above the 1970-71 value. The 1981-82 value may be even higher in relation to that of 1970-71 when one considers that the earlier expenditure figures excluded a number of institutions which, for the most part, have no research expenditures. Inclusion of these institutions in the 1970-71 figures would have lowered the ratio somewhat.

A2.4 Ratios of BIU's to eligible FTE enrolment

Table A2-4 presents data showing FTE enrolment, BIU's and BIU/FTE enrolment ratios for the undergraduate and graduate sectors as well as totals for the Ontario Universities. Looking at the total figures first, the BIU/FTE enrolment ratio has remained relatively constant over the years, showing only a slight increase from 1.67 in 1970-71 to 1.72 in 1981-82.

However, this apparent stability in the total figures masks shifts at the undergraduate and graduate levels. At the undergraduate level, the ratio of BIU's/FTE enrolment climbed steadily from a ratio of 1.42 in 1970-71 to 1.54 in 1979-80 and has remained

Table A2-4

Ratios of BIU's to Eligible FTE Enrolment in Ontario Universities[1]

	Undergraduate			Graduate			Total		
	FTE Enrolment[2,3]	BIU's[4]	BIU/FTE Enrolment	FTE Enrolment[5]	BIU's	BIU/FTE Enrolment	FTE Enrolment	BIU's[6]	BIU/FTE Enrolment
1970-71	120,929.4	171,665.0	1.42	15,133.6	55,653.5	3.68	136,063.0	227,478.8	1.67
1972-73	145,437.0	212,496.1	1.46	16,916.2	59,173.8	3.50	162,353.2	271,907.9	1.67
1973-74	154,747.4	228,017.7	1.47	17,808.6	60,240.1	3.38	172,556.0	288,972.0	1.67
1974-75	163,708.0	243,776.0	1.49	18,420.8	61,852.7	3.36	182,128.8	306,329.4	1.68
1975-76	174,788.0	260,759.2	1.49	19,313.8	64,332.1	3.33	194,101.8	326,377.9	1.68
1976-77	177,497.2	264,345.8	1.49	18,983.9	63,933.4	3.37	196,481.0	329,436.3	1.68
1977-78	172,084.7	259,295.5	1.51	17,828.0	61,584.9	3.45	189,912.7	322,081.7	1.70
1978-79	167,786.6	255,461.1	1.52	17,662.0	60,608.5	3.43	185,448.6	316,835.8	1.71
1979-80	169,055.9	259,866.6	1.54	17,721.6	60,081.5	3.39	186,777.5	321,035.5	1.72
1980-81	175,310.1	270,109.5	1.54	17,919.3	60,816.9	3.39	193,229.4	331,956.9	1.72
1981-82	184,158.6	283,632.8	1.54	18,512.2	63,293.5	3.42	202,670.8	348,063.3	1.72

Note: The number of institutions included in the figures varies from year to year. Data exclude OISE in 1970-71, Ryerson in 1970-71, Dominicain prior to 1973-74 and OCA prior to 1975-76. Church related affiliates are included in all years.

1. Sources: Ministry of Colleges and Universities Statistical Summary and Financial Report.

2. Commencing in 1976-77, undergraduate figures are reported as FFTE enrolment. Prior to 1976-77, the divisor used to convert course registrations into FTE of part-time undergraduate enrolment was 6 in 1970-71, 5.5 in 1972-73 and 5 in 1973-74 to 1975-76.

3. Data exclude undergraduate off-campus registrations at Waterloo.

4. Data include BIU's for church related affiliates at 100%.

5. Data include FTE of graduate summer school.

6. Data include minima-maxima adjustments for graduate entitlement and imputing adjustments.

constant at that value. On the other hand the ratio at the graduate level has dropped from 3.68 in 1970-71 to 3.42 in 1981-82. It should also be noted that total FTE enrolment showed an increase of 49% during this period but registered declines in 1977-78 and 1978-79.

A2.5 Student/faculty ratios

Table A2-5 presents data showing FTE enrolment/FTE faculty ratios for the Ontario universities. The salaries and wages figures used in the calculations of FTE faculty include salaries paid to academic staff from lecturers to deans inclusive as well as payments made to staff members without academic rank who are engaged in instruction and research. This latter group may include instructors, tutors, markers, demonstrators, teaching assistants, research assistants, invigilators, clinical assistants, and post-doctoral fellows, provided payments to these staff come out of university operating funds. If university student/faculty ratios are being compared to ratios for other sectors, care must be taken to ensure that comparable staff are included for the non-university sectors.

While student/faculty ratios could have been developed based only on ranked academic staff, the Committee concluded that it was more appropriate to include the fullest possible range of teaching resources. Such an approach will take account of potentially

Table A2-5

Student/Faculty Ratios in Ontario Universities

	FTE Enrolment[1]	FTE Faculty[2]	FTE Enrolment/ FTE Faculty
1970-71	125,551.6	9,756.4	12.9
1972-73	142,161.4	10,731.5	13.2
1973-74	155,505.7	11,212.5	13.9
1974-75	165,671.0	11,562.8	14.3
1975-76	177,212.7	12,133.5	14.6
1976-77	178,779.3	12,247.8	14.6
1977-78	171,972.5	12,291.5	14.0
1978-79	185,448.6	13,314.4	13.9
1979-80	186,777.5	13,095.1	14.3
1980-81	193,229.4	13,034.4	14.8
1981-82	202,670.8	13,112.5	15.5

Note: The number of institutions included in the figures varies from year to year. Data exclude Wilfrid Laurier prior to 1973-74, OISE prior to 1975-76 and Algoma, Nipissing, Hearst, Ryerson, Regis, Dominicain, OCA and church related affiliates prior to 1978-79.

1. Sources: Ministry of Colleges and Universities Statistical Summary and Financial Report. Commencing in 1976-77, undergraduate figures are reported as FTE enrolment. Prior to 1976-77, the divisor used to convert course registrations into FTE of part-time undergraduate enrolment was 6 in 1970-71, 5.5 in 1972-73 and 5 in 1973-74 to 1975-76. Data exclude undergraduate off-campus registrations at Waterloo but include FTE of graduate summer school.

2. FTE faculty were obtained by dividing the sum of salaries and wages for "academic ranks" and "other instruction and research" under "operating expenses" (from COFO-UO's Total Revenue and Expenses for Provincially Assisted Universities) by the average salary on a fiscal year basis for academic staff in the professorial ranks (from Statistics Canada's Salaries for Full-Time Teaching Staff at Canadian Universities) for each institution. Commencing in 1978-79, COFO-UO salaries data for church related affiliates were included but the average salary divisor used was the average salary for the parent institution. Similarly, commencing in 1978-79, the average salary divisor used for Algoma, Nipissing, Hearst, Ryerson, Dominicain and OCA was the average salary for all universities from Table B4-1 in Part B of this compendium.

idiosyncratic variations in the distribution of teaching resources between ranked and non-ranked teaching staff which might occur from year to year or between institutions.

In recent years a number of alternative methods of calculating student/faculty ratios have been advanced, ranging from the simplified approach using aggregated data to the highly complex methodology requiring large amounts of detailed data. As the Committee feels that the principal focus should be on the changes in the ratio over time, it has concluded from its examination of a number of methodologies that the simplified approach adopted in this compendium yields valid results and that the extra efforts demanded by more complicated strategies would not be warranted. It should be noted, however, that the ratios presented in this compendium may differ from series of student/faculty ratios previously published by COU.

The ratio in Table A2-5 shows a steady deterioration from 1970-71 to 1975-76 as enrolment growth increased at a faster rate than did faculty additions. The ratio held steady in 1976-77 at the 1975-76 level as enrolment increased only marginally. The ratio improved in the next two years, due to slight increases in the numbers of FTE faculty coupled with unexpected decreases in the numbers of FTE students. (The decrease in FTE students in 1978-79 is masked in Table A2-5 by the addition of students at the church related affiliates in the figures for the first time.) The ratio showed a

deterioration again in 1979-80, 1980-81, and in 1981-82 as a result of the enrolment increases in those years.

APPENDIX I

SUPPLEMENTARY SYSTEM DATA

Table I-1

Cost Indices

	For Operating Expenditures				For Research Expenditures	
	COU Combined Index[1]	Combined Index Based on Actual Academic Salary Increases[2]	Ontario University Non-Salary Price Index[3]	CPI[4]	COU Combined Research Index[5]	Combined Research Index Based on Actual Academic Salary Increases[6]
1970-71	100.0	100.0	100.0	100.0	100.0	100.0
1972-73	115.7	111.2	108.0	109.2	113.8	110.4
1973-74	124.5	118.5	120.3	118.9	123.5	119.0
1974-75	140.2	131.7	140.9	132.5	140.4	134.0
1975-76	157.6	146.4	156.2	145.8	157.3	148.8
1976-77	173.9	161.0	170.6	155.7	173.1	163.4
1977-78	189.3	176.0	192.3	169.1	190.1	180.1
1978-79	202.9	187.7	211.9	184.3	205.2	193.7
1979-80	222.4	204.5	240.6	201.4	227.0	213.5
1980-81	245.4	225.0	271.0	223.9	251.8	236.5
1981-82	275.5	251.5	308.5	251.1	283.8	265.7

1. This index is a combination of 0.8 of a salary index and 0.2 of a non-salary index. The salary component is the industrial composite index from Statistics Canada's Employment Earnings and Hours. The non-salary component is the COU "Ontario University Non-Salary Price Index".

2. This index is a combination of 0.8 of a salary index and 0.2 or a non-salary index. The salary component has been derived from actual average salary data for full, associate and assistant professors as reported in Statistics Canada's Salaries of Full-Time Teaching Staff at Canadian Universities. The non-salary component is the COU "Ontario University Non-Salary Price Index".

3. Source: Brief to the Ontario Council on University Affairs on Operating Grant Requirements for 1984-85 COU Committee on Operating Grants, Council of Ontario Universities, April, 1983.

4. Source: The Consumer Price Index, Statistics Canada, monthly.

5. This index is similar to 1 above but uses a combination of 0.6 of the salary index and 0.4 of the non-salary index.

6. This index is similar to 2 above but uses a combination of 0.6 of the salary index and 0.4 of the non-salary index.

Table I-2

Determination of Operating Revenue in Constant Dollars

	Operating Revenue in Current Dollars[1]	Operating Revenue in Constant Dollars, Deflated by:		
	($000's)	COU Combined Index[2] ($000's)	Combined Index Based on Actual Academic Salary Increases[3] ($000's)	CPI[4] ($000's)
1970-71	391,295	391,295	391,295	391,295
1972-73	465,744	402,545	418,835	426,505
1973-74	510,319	409,895	430,649	429,200
1974-75	578,732	412,790	439,432	436,779
1975-76	702,865	445,980	480,099	482,075
1976-77	790,899	454,801	491,242	507,963
1977-78	865,136	457,018	491,555	511,612
1978-79	934,932	460,785	498,099	506,738
1979-80	985,976	443,335	482,140	489,561
1980-81	1,060,314	432,076	471,251	473,566
1981-82	1,196,196	434,191	475,625	476,382

1. Source: Total Revenue and Expenses for Provincially Assisted Universities of Ontario, COFO-00. Data exclude OMAF grants, MCU payments in lieu of municipal taxes, church related affiliates prior to 1978-79 (the arts and science component at Toronto has been included since 1974-75), Algoma in 1970-71, 1972-73, 1973-74, 1975-76, and 1976-77, Nipissing in 1970-71, Hearst in 1970-71, OCA prior to 1977-78, OISE prior to 1975-76, Ryerson prior to 1975-76 and Wilfrid Laurier prior to 1973-74.

2. This index is a combination of 0.8 of a salary index and 0.2 of a non-salary index. The salary component is the industrial composite index from Statistics Canada's Employment Earnings and Hours. The non-salary component is the COU "Ontario University Non-Salary Price Index".

3. This index is a combination of 0.8 of a salary index and 0.2 of a non-salary index. The salary component has been derived from actual average salary data for full, associate and assistant professors as reported in Statistics Canada's Salaries of Full-Time Teaching Staff at Canadian Universities. The non-salary component is the COU "Ontario University Non-Salary Price Index".

4. Source: The Consumer Price Index, Statistics Canada, monthly.

Table I-3

Eligible FTE Enrolment and BIU's in Ontario Universities[1]
(for those institutions included in COFO-UO reports)

	FTE Enrolment[2,3]	BIU's[4]
1970-71	125,551.6	215,356.8
1972-73	142,579.0	247,533.7
1973-74	156,057.5	268,090.3
1974-75	166,930.8	285,421.7
1975-76	187,866.2	319,243.1
1976-77	189,763.6	321,781.1
1977-78	185,145.1	316,867.6
1978-79	185,448.6	316,835.8
1979-80	186,777.5	321,035.5
1980-81	193,229.4	331,956.9
1981-82	202,670.8	348,063.3

1. Sources: Ministry of Colleges and Universities Statistical Summary and Financial Report. From 1974-75 to 1977-78, additional data for church related affiliates were provided by the parent universities. Data exclude Algoma in 1970-71, 1972-73, 1973-74, 1975-76 and 1976-77, Nipissing in 1970-71, Hearst in 1970-71, OCA prior to 1977-78, OISE prior to 1975-76, Ryerson prior to 1975-76 and Wilfrid Laurier prior to 1973-74. Prior to 1978-79, students enrolled in church related institutions were excluded (with the exception of Toronto which included students in arts and science programmes commencing in 1974-75).

2. Commencing in 1976-77, undergraduate figures are reported as FFTE enrolment. Prior to 1976-77, the divisor used to convert course registrations into FTE of part-time undergraduate enrolment was 6 in 1970-71, 5.5 in 1972-73 and 5 in 1973-74 to 1975-76.

3. Data include FTE of graduate summer school but exclude undergraduate off-campus registrations at Waterloo.

4. Data include minima-maxima adjustments for graduate entitlement and imputing adjustments.

Table I-4

Determination of Research Expenditures in Constant Dollars

	Research Expenditures in Current Dollars[1,2]	Research Expenditures in Constant Dollars, Deflated by:		
	($000's)	COU Combined Research Index[3] ($000's)	Combined Research Index Based on Actual Academic Salary Increases[4] ($000's)	CPI[5] ($000's)
1970-71	62,471[2]	62,471	62,471	62,471
1972-73	69,538[2]	61,105	62,987	63,679
1973-74	75,322[2]	60,989	63,296	63,349
1974-75	85,905[2]	61,186	64,108	64,834
1975-76	98,323[2]	62,307	66,077	67,437
1976-77	103,813[2]	59,973	63,533	66,675
1977-78	125,579	66,059	69,727	74,263
1978-79	144,507	70,423	74,604	78,324
1979-80	161,768	71,263	75,770	80,322
1980-81	186,631	74,119	78,914	83,355
1981-82	229,486	80,862	86,370	91,392

1. Source: Total Revenue and Expenses for Provincially Assisted Universities of Ontario, COFO-UO. Data include OMAF grants but exclude church related affiliates (the arts and science component at Toronto has been included since 1974-75), Algoma, Nipissing, Hearst, OCA and Ryerson, OISE prior to 1975-76, and Wilfrid Laurier prior to 1973-74.

2. COFO-UO figures were augmented by estimates provided by the University of Guelph of the direct costs of the research portion of the OMAF programme.

3. This index is a combination of 0.6 of a salary index and 0.4 of a non-salary index. The salary component is the industrial composite index from Statistics Canada's Employment Earnings and Hours. The non-salary component is the COU "Ontario University Non-Salary Price Index".

4. This index is a combination of 0.6 of a salary index and 0.4 of a non-salary index. The salary component has been derived from actual average salary data for full, associate and assistant professors as reported in Statistics Canada's Salaries of Full-Time Teaching Staff at Canadian Universities. The non-salary component is the COU "Ontario University Non-Salary Price Index".

5. Source: The Consumer Price Index, Statistics Canada, monthly.

Table I-5

Determination of Non-Salary Operating Expenditures in Constant Dollars

	Non-Salary Operating Expenditures in Current Dollars[1,2] ($000's)	Non-Salary Operating Expenditures in Constant Dollars Deflated by: Ontario University Non-Salary Price Index[3] ($000's)	CPI[4] ($000's)
1970-71	90,522	90,522	90,522
1972-73	91,129	84,379	83,451
1973-74	101,429	84,313	85,306
1974-75	116,303	82,543	87,776
1975-76	133,073	85,194	91,271
1976-77	142,972	83,805	91,825
1977-78	155,80.	81,020	92,135
1978-79	166,494	78,572	90,241
1979-80	179,163	74,465	88,959
1980-81	198,479	73,239	88,646
1981-82	223,797	72,544	89,127

1. Source: Total Revenue and Expenses for Provincially Assisted Universities of Ontario, COFO-UO. Data exclude OMAF grants, MCU payments in lieu of municipal taxes, church related affiliates prior to 1978-79 (the arts and science component at Toronto has been included since 1974-75), Algoma in 1970-71, 1972-73, 1973-74, 1975-76 and 1976-77, Nipissing in 1970-71, Hearst in 1970-71, OCA prior to 1977-78, OISE prior to 1975-76, Ryerson prior to 1975-76 and Wilfrid Laurier prior to 1973-74.

2. The following adjustments have been made to the figures reported by COFO-UO:
   a) The salaries portion of "renovations and alterations" (assumed to be 60%) has been deleted.
   b) The salaries portion of "external contracted services" (assumed to be 75%) has been deleted.
   c) The salaries portion of "interna. cost allocations" (assumed to be 60%) has been deleted.

3. Source: Brief to the Ontario Council on University Affairs on Operating Grant Requirements for 1984-85, COU Committee on Operating Grants, Council of Ontario Universities, April 1983.

4. Source: The Consumer Price Index, Statistics Canada, monthly.

Table I-6

Determination of Operating Expenditures in Constant Dollars

	Operating Expenditures in Current Dollars[1]	Operating Expenditures in Constant Dollars, Deflated by:		
	($000's)	COU Combined Index[2] ($000's)	Combined Index Based on Actual Academic Salary Increases[3] ($000's)	CPI[4] ($000's)
1970-71	391,663	391,663	391,663	391,663
1972-73	465,135	402,018	418,287	425,948
1973-74	512,630	411,751	432,599	431,144
1974-75	581,252	414,588	441,345	438,681
1975-76	705,758	447,816	482,075	484,059
1976-77	784,165	450,929	487,059	503,638
1977-78	860,358	454,494	488,840	508,787
1978-79	924,777	455,780	492,689	501,234
1979-80	977,856	439,683	478,169	485,529
1980-81	1,061,562	432,560	471,779	474,096
1981-82	1,193,698	433,284	474,631	475,387

1. Source: Total Revenue and Expenses for Provincially Assisted Universities of Ontario, COFO-UO. Data exclude OMAF grants, MCU payments in lieu of municipal taxes, church related affiliates prior to 1978-79 (the arts and science component at Toronto has been included since 1974-75), Algoma in 1970-71, 1972-73, 1973-74, 1975-76 and 1976-77, Nipissing in 1970-71, Hearst in 1970-71, OCA prior to 1977-78, OISE prior to 1975-76, Ryerson prior to 1975-76 and Wilfrid Laurier prior to 1973-74

2. This index is a combination of 0.8 of a salary index and 0.2 of a non-salary index. The salary component is the industrial composite index from Statistics Canada's Employment Earnings and Hours. The non-salary component is the COU "Ontario University Non-Salary Price Index".

3. This index is a combination of 0.8 of a salary index and 0.2 of a non-salary index. The salary component has been derived from actual average salary data for full, associate and assistant professors as reported in Statistics Canada's Salaries of Full-Time Teaching Staff at Canadian Universities. The non-salary component is the COU "Ontario University Non-Salary Price Index".

4. Source: The Consumer Price Index, Statistics Canada, monthly.

APPENDIX II

GLOSSARY OF TERMS AND DEFINITIONS

GLOSSARY OF TERMS AND DEFINITIONS

Academic salaries as used in this compendium refer to the average annual rates of salary for full-time teaching staff in the professorial ranks, i.e. full professor, associate professor and assistant professor.

BIU (Basic Income Unit) as defined in the MCU Ontario Operating Formula Manual is the basic funding unit used in the Ontario Operating Grants Formula and is intended to represent two terms of general degree work offered in a liberal arts college. Work in honours, professional and graduate programmes is weighted on a rough cost basis to this basic unit. Total enrolment of each institution is converted into "basic income units" by applying this weighting scheme and then multiplied by the current value of the BIU to produce basic operating income (BOI).

Church related affiliates refers to the federated and affiliated denominational universities and colleges that are affiliated with, and funded through, the provincially assisted universities. In 1978-79 the church related affiliates were Huntington University, University of Sudbury, Thorneloe University, McMaster Divinity College, St. Augustine's Seminary, Universite St. Paul, Queen's Theological College, Knox College, University of St. Michael's College, University of Trinity College, Wycliffe College, Victoria University, Regis College, Conrad Grebel College, St. Paul's

College, Renison College, University of St. Jerome's College, Brescia College, Huron College, King's College and St. Peter's Seminary, Waterloo Lutheran Seminary and Dominicain College.

COFO-UO (Committee of Finance Officers-Universities of Ontario) is a committee affiliated to the Council of Ontario Universities. Membership comprises one senior financial officer from each of the provincially assisted universities of Ontario. The committee was formed to provide an organization to promote discussion and exchange of information among the membership and to provide advice and assistance on financial and other related matters to COU and its committees and to other agencies as appropriate.

Constant dollars are current dollars which have been deflated by means of an index (relative to a stated base year) to account for the decreased purchasing power of the dollar over time due to the effects of inflation.

CPI (Consumer Price Index) is the most widely-known price index used in Canada. Prepared by Statistics Canada, the CPI measures the percentage change through time in the cost of purchasing a constant "basket" of goods and services representing the purchases by a particular population group in a specified time period.

Eligible enrolment as defined in the MCU Ontario Operating Formula Manual refers to those students or programmes approved for formula

funding support by the Ministry of Colleges and Universities. As the rules governing eligibility are subject to minor change from year to year, reference should be made to the MCU Formula Manual for a list of eligible students in a particular year.

Externally contracted services - This COFO-UO object of expense category includes all expenses for services which may be contracted to external agencies (except for renovations and alterations), e.g. cleaning contracts, security services and computing services.

Fiscal year is the university financial year. Since 1972-73 the university fiscal year has run from 1 May to 30 April.

Formula grants for each institution are calculated by deducting the standard fees (which vary by programme of study) for the institution from its basic operating income (see BIU).

FTE (Full-Time Equivalent) Enrolment represents full-time enrolment headcounts counted at unity plus part-time enrolment converted into FTE's of full-time enrolment. Part-time graduate students were converted by multiplying headcounts by 0.3. Part-time undergraduate students were converted by dividing course registrations by a conversion factor (6.0 in 1970-71, 5.5 in 1972-73 and 5.0 in following years). Note: commencing in 1976-77, a new method of counting undergraduate enrolment was employed - see FFTE.

FFTE (Fiscal Full-Time Equivalent) Enrolment - Commencing in 1976-77 undergraduate enrolment (both full-time and part-time) was counted in the following manner. For each undergraduate student in a degree or diploma programme, the fiscal full-time equivalent enrolment for a term was calculated by dividing the units of study for that term by the normal full-time study load for the academic year for the programme. The fiscal full-time equivalent enrolment for the fiscal year is the sum of fiscal full-time equivalents for each term within that fiscal year.

Gross provincial expenditure refers to the total expenditures by a province in any given fiscal year. There are some problems in ensuring that the provincial budgetary expenditure data as shown in the provincial public accounts are consistent for all jurisdictions as certain items, such as expenditures of special funds, may be treated differently by each province. Statistics Canada has attempted to alleviate this problem by developing a measure called "Gross General Expenditure" which has been used as a measure of gross provincial expenditure. This measure incorporates budgetary expenditures as reported in the public accounts as well as expenditures of a number of government agencies.

Imputing adjustments as defined in the MCU Ontario Operating Formula Manual are adjustments made in the year following the reporting of estimated enrolments in first year in the programmes at a university which offers a common first year. These

adjustments are based on the programmes actually taken by the students in their second year of study. A more detailed explanation may be found in the MCU Formula Manual.

Instruction and research salaries as reported by COFO-UO includes two object of expense categories under "salaries and wages" - "academic ranks" and "other instruction and research". "Academic ranks" includes salaries paid to academic staff from lecturers to deans inclusive (both full and part-time) in faculties, academic departments or programmes, summer schools, credit extension courses and other academic functions and salary payment to staff members on paid academic leave. "Other instruction and research" includes payments to staff members without academic rank who are engaged in instruction and research as instructors, tutors, markers, demonstrators, teaching assistants, research assistants, invigilators, clinical assistants, post-doctoral fellows and includes payments made to graduate and undergraduate students undertaking these activities.

Internal cost allocation - This COFO-UO object of expense category is used for reporting internal transfers of costs among funds (e.g. operating, ancillary enterprises, sponsored research) within an institution.

Minima-maxima adjustments are adjustments made to graduate student BIU's reported by a university to ensure funding within a defined

range independent of the actual number of years required by the individual student to complete his programme of study. A more detailed explanation may be found in the MCU Formula Manual.

Net teaching service refers to the net effect of the cross teaching between a provincially assisted university and its church related affiliates. Students who are registered at the affiliated institution may, in fact, receive all or part of their instruction from the provincially assisted university, or vice versa. Enrolment reported on a net teaching service basis is based on the net effect of this cross teaching rather than on where the students may be registered.

Non-academic salaries - This COFO-UO object of expense (labelled "other salaries and wages" in the COFO-UO report) includes salaries, wages and payments to non-instructional staff (support staff) including among others, technicians, clerical and secretarial, administrative and physical plant personnel. All salaries reported under functional areas other than instruction and research are included in this object of expense even though certain individuals may hold the equivalent of an academic rank.

Operating expenditures (or revenue) - As defined by COFO-UO the operating fund accounts for the cost of instruction, academic support services, administrative, plant maintenance and other operating expenses of the university financed by fees, grants and

other general income. This fund will normally include all revenues and expenses which the university considers to be operating, within the functional operating areas instruction and (non-sponsored) research, library, computing, student services, administration, physical plant and other operating.

Operating grants are grants received from the government of the province in which the institution is located which are classified as income in the operating fund of the institution. Included are grants provided by all provincial ministries in support of academic programmes and/or general research and grants for system-wide co-operative projects (excepting grants to government advisory bodies). Excluded are grants for ancillary enterprises, non-credit instruction, municipal tax relief, provincially sponsored research, student aid, scholarships and capital projects.

Operating grants plus fees - In addition to operating grants (described above), this category includes tuition fees for credit programmes and miscellaneous fees (e.g. library fees, athletic fees, health service fees, graduation fees, laboratory or equipment fees, materials or breakage charges, fines and other fees that become income to the university). Excluded are revenue from non-credit course fees, residence fees, parking charges, student union levies, other ancillary fees and fees collected on behalf of another agency.

Operating income is defined as all income received for or transferred to meet the operating expenditures of university-level programmes. Excluded are capital funds (those funds which are designated for new buildings, major additions to existing buildings, building rental where there is a major component of operating expenditures in the province, debt servicing charges and land purchases), trust and endowment funds, sponsored research funds, ancillary enterprise funds, provincial government grants designated for property taxes or grants in lieu of taxes (as well as institutional payments to municipalities relating to property taxes), student assistance (grants and scholarships paid directly to the student by the provincial government or from institutional trust and endowment funds and loans from any source) and debenture repayments from both operating revenue and expenditure.

OUNSPI (Ontario University Non-Salary Price Index) is a tool to assist in measuring the impact of inflation on non-salary expenditure in universities and a more accurate measure of the extent of inflationary erosion between any two years. Initially developed by COFO-UO, OUNSPI was first published in 1978.

Payments in lieu of municipal taxes are MCU grants to the Ontario universities individually designated for payment of municipal property taxes.

Provincial gross domestic product measures provincial output as

the sum of incomes received by the factors of production, e.g. labour income, corporation products, farm income, etc. Data were obtained from Statistics Canada's Experimental Data on Provincial Economic Accounts.

Provincial personal income is defined as total income for the provincial population derived from wages, salaries and supplementary labour income, military pay and allowances, net income of farm operators and unincorporated business, interest, dividends and miscellaneous investment income, and current transfers from government, corporations and non-residents. These data were obtained from Statistics Canada's CANSIM system.

Provincially assisted universities of Ontario (as of 1978-79) include Brock University, Carleton University, University of Guelph, Lakehead University, Laurentian University, Algoma University College, Nipissing University College, Le College Universitaire de Hearst, McMaster University, Ontario College of Art, Ontario Institute for Studies in Education, University of Ottawa, Queen's University, Ryerson Polytechnical Institute, University of Toronto, Trent University, University of Waterloo, University of Western Ontario, Wilfrid Laurier University, University of Windsor, and York University.

Research expenditures as used in this compendium refers to "sponsored research".

Sponsored research - As defined by COFO-UO, this fund accounts for government and private sources of external grant support available and expended on research activities and projects. Expenses may include overhead charges by the university.